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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,852	12/28/2001	Amarendra K. Rai	UNI 0041 PA	9645

7590 02/28/2005

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EXAMINER

TURNER, ARCHENE A

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 02/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/034,852

**Applicant(s)**

RAI ET AL.

**Examiner**

Archene A Turner

**Art Unit**

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 19,21-26 and 47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19,21-26 and 47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: \*\*\*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 24-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The metal oxides listed are not rare earth oxides, rendering the claims indefinite.

3. Claim 47 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear whether the phrase "said metal oxide overlayer" is the same as the previous "an yttrium oxide overlayer", rendering this claim indefinite.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: \*\*\*

5. Claims 19, 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Hashimoto et al (6,077,596).

Hashimoto et al discloses the claimed metal oxide coating over the claimed intermediate layer (column 2, lines 25-43).

6. Claims 19, 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Mehrotra et al (4,880,755).

Mehrotra et al discloses the claimed metal oxide coating over the claimed intermediate layer (claim 9).

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 19,21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarin et al (4,702,970 or 4,701,384).

Sarin et al discloses the claimed zirconia or yttria coating over a claimed intermediate layer on a substrate. Sarin et al does not disclose the intermediate layer being more than one layer or the use of scandia or lanthania.

Art Unit: \*\*\*

It would have been obvious to one of ordinary skill in the art to provide the claimed interlayer as at least two layers, and providing them with the claimed components, as the technique to include an initial metallic layer is known in the coating art to provide improved adherence of the disclosed metal carbide, nitride or carbonitride intermediate layer.

It would have also been obvious to one of ordinary skill in the art to provide substitute scandia or lanthania for yttria in Sarin et al, as these metal oxides are known in the chemical art to be functionally equivalent to yttria.

9. Claims 19,24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rechberger et al (5,965,253).

Rechberger et al discloses the claimed metal oxide coating over a claimed intermediate layer on a substrate. Rechberger et al does not disclose the intermediate layer being more than one layer.

It would have been obvious to one of ordinary skill in the art to provide the claimed interlayer as at least two layers, and providing them with the claimed components, as the technique to include an initial metallic layer is known in the coating art to provide improved adherence of the disclosed metal carbide, nitride, carbonitride or oxide intermediate layer.

Art Unit: \*\*\*

10. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al (6,077,596) or Mehrotra et al (4,880,755) or Sarin et al (4,702,970 or 4,701,384) or Rechberger et al (5,965,253).

The above references disclose the invention substantially as claimed except for the claimed gradation in the intermediate layer.

It would have been obvious to one of ordinary skill in the art to provide the intermediate layer with the claimed gradation, as this technique is known in the art to improve stress and adherence in the coating.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Archene Turner whose new telephone number is (571) 272-1545. The examiner can normally be reached on Monday through Wednesday, and Friday from 10:30 am. to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Please remember to include on the fax, the art unit 1775, serial number and Examiner's name.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: \*\*\*

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'A. A. Turner', with a long horizontal flourish extending to the right.

**A. A. Turner**  
**Primary Examiner**  
**Group 1700**

aat